

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of

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Amendment of Parts 2 and 25 of the)	ET Docket No. 98-206
Commission's Rules to Permit Operation)	RM-9147
of NGSO FSS Systems Co-Frequency with)	RM-9245
GSO and Terrestrial Systems in the Ku-)	
Band Frequency Range)	
and)	
Amendment of the Commission's Rules)	
to Authorize Subsidiary Terrestrial Use)	
of the 12.2-12.7 GHz Band by Direct)	
Broadcast Satellite Licensees and Their)	
Affiliates)	

REPLY COMMENTS OF HUGHES COMMUNICATIONS, INC.

Hughes Communications, Inc. ("HCI") hereby submits its Reply Comments in response to the initial comments submitted in this proceeding. As HCI explained in its initial Comments, it is vitally interested in this proceeding as an applicant for the HughesLINK and HughesNET Ku band NGSO FSS satellite systems. Additionally, HCI has an interest in this proceeding as a member of a family of companies that includes current Ku Band satellite operators, namely PanAmSat Corporation and DIRECTV, Inc.

The initial comments submitted in this proceeding reveal one fundamental caution that should guide the Commission's ultimate decision in this matter. Namely, the introduction of NGSO FSS systems into the Ku band involves a series of intricate and difficult technical issues, the study of which is still under way, and the Commission must not rush forward on the many

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complicated issues set forth in its Notice of Proposed Rulemaking¹ until it has collected a complete and full record. Even with the studies that have been undertaken in the ITU-R process -- and the Commission should independently scrutinize the outputs of this process -- the initial comments demonstrate that the Commission's record is incomplete in many respects and that further study is needed before the Commission can adopt rules permitting NGSO FSS service at Ku band. Furthermore, there is little value in adopting provisional rules, as some commenters suggest, based on the current preliminary and incomplete record, when these provisional rules, like the WRC-97 provisional limits, will in all likelihood need to be modified when the record is complete.

However, HCI is optimistic, especially in view of the work that has been undertaken in the GSO/NGSO sharing area, that the technical studies of both GSO/NGSO and NGSO/NGSO sharing that are necessary to complete the Commission's record will be resolved before WRC-00. Furthermore, as an applicant for two Ku Band NGSO FSS systems, HCI is committed to diligently participate in these sharing studies and discussions.

I. GSO/NGSO SHARING

On the whole, the initial comments make it quite plain that the issues involved in GSO/NGSO sharing are complex and difficult and that, although significant work has been done, substantial issues remain unresolved. To this end, HCI agrees with Telesat Canada² that the Commission should not adopt rules in this proceeding until further technical analysis has been

¹ *Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range*, FCC 98-310 (rel. November 24, 1998) ("NPRM").

² Comments of Telesat Canada at 3, 6.

completed. On a similar note, HCI supports the comments of PanAmSat,³ which indicate that the Commission should refrain from issuing Ku Band NGSO FSS licenses until the Commission has adopted both appropriate aggregate interference limits and an effective methodology for allocating these aggregate interference limits among the NGSO FSS applications. As HCI indicated in its initial comments, the aggregate limits and a methodology to make certain that they are not exceeded are critical elements to protect existing and future GSO FSS and BSS uses at Ku band.⁴

On the issue of this allocation methodology, several commenters provide preliminary suggestions and central to many of these suggestions is a value for “ $N_{\text{effective}}$ ” or the effective number of NGSO FSS systems that can share the same frequency at Ku band. For example, Sullivan Telecommunications calls for an interim “ $N_{\text{effective}}$ ” of three (3).⁵ Yet, the technical studies of this issue are not complete and the initial comments do not demonstrate any consensus on this key issue. Thus, HCI believes that further study is needed before the Commission adopts a value for $N_{\text{effective}}$ and that adopting a provisional value of $N_{\text{effective}}$ is of no value to moving forward meaningfully.

One additional issue related to GSO/NGSO sharing at Ku band bears comment. The initial comments agree, in principle, that the Commission must adopt both single-entry and aggregate interference limits to enable GSO/NGSO sharing at Ku band. However, some commenters argue that the Commission must also implement an avoidance arc around the GSO

³ Comments of PanAmSat Corporation at 14.

⁴ Comment of Hughes Communications, Inc. at 2-3.

⁵ Comments of Sullivan Telecommunications at 9.

plane to protect GSO operations. As the Commission recognized in the NPRM,⁶ avoidance of the GSO arc is a potential element -- and perhaps a necessary component -- of an NGSO-system strategy to comply with the interference limits that the Commission ultimately adopts. Yet, the amount of interference into GSO systems from NGSO systems at any specific avoidance arc angle varies with different NGSO system parameters, including the design of the NGSO system satellite constellation, the satellite antennas and the ground terminals. Thus, if the Commission decides to implement the avoidance arc concept as part of the regime to protect GSO systems, the Commission must retain flexibility to take into account the interference characteristics of the individual NGSO system applications that have been filed.

II. NGSO/NGSO SHARING

Like the record on GSO/NGSO sharing, the initial comments on NGSO/NGSO sharing do not provide the Commission the full and complete record upon which to adopt the rules that are necessary to accommodate multiple NGSO FSS systems at Ku band. Indeed, in most respects the NGSO/NGSO studies lag behind the GSO/NGSO sharing studies, as the ITU-R study groups have been largely focused on GSO/NGSO issues. Furthermore, as HCI indicated in its initial comments, the precise NGSO/NGSO system sharing parameters that will be employed in the U.S. likely hinge on the specific characteristics of the recently-filed Ku band NGSO FSS system applications and, to a large extent, the accommodations that the applicants are willing to make in the process of concluding a sharing plan. Of course, sharing discussions between the NGSO FSS Ku band applicants have not yet begun. As HCI indicated in its initial comments, the Commission should encourage the development of an industry working group among the

⁶ NPRM at ¶ 75.

NGSO FSS applicants, which would attempt to develop appropriate sharing approaches and parameters to permit multiple NGSO FSS entry at Ku band, while taking into account the specific parameters of each system.

On the issue of the licensing and service rules applicable to NGSO FSS systems at Ku band, several commenters raise issues that deserve comment. First, because of the large number of first-round Ku band NGSO FSS applications, the opportunity for a second processing round may not develop. Useable capacity for second-round systems simply may not be available in the complex, shared environment that is likely to develop among the first-round licensees. Thus, similar to Boeing's position,⁷ HCI believes that, at this point, when the sharing discussions between the *first-round* applicants have not yet begun and when the outcome of the first processing round is far from clear, it is premature for the Commission to consider whether first-round licensees should have "any responsibility for accommodating subsequent NGSO FSS applicants."⁸ The Commission's key concern at Ku band, as it has been at Ka band, should be to ensure that competition develops between multiple Ku band NGSO FSS systems, and, given the number of first-round NGSO FSS Ku band applicants, competition between multiple licensees appears to be extremely likely.

Next, the Commission should reject SkyBridge's suggestion⁹ that the Commission require Ku band NGSO FSS systems to offer certain types of services to certain

⁷ Comments of The Boeing Company at 63-64.

⁸ NPRM at ¶ 70.

⁹ Comments of SkyBridge L.L.C. at 82-83.

segments of the public. Such a policy would be unwise, as the market provides a much better vehicle for determining which satellite services should be offered to the public.

III. NORTHPOINT PROPOSAL

In its initial comments, Northpoint argues that its proposed system should be “co-primary” with NGSO FSS systems utilizing the 12.2 - 12.7 GHz band.¹⁰ Northpoint also indicates that HCI’s HughesLINK and HughesNET systems, along with SkyBridge’s proposed system, would “need to alter their systems or operations to protect Northpoint.”¹¹ As a threshold matter, HCI notes that the comments of the incumbent DBS operators uniformly indicate that Northpoint’s proposed system will not adequately protect existing DBS operations. In this respect, HCI agrees with DIRECTV¹² that Northpoint’s proposed point-to-multipoint microwave service is more appropriately located in spectrum bands set aside for that type of service, such as the LMDS, MDS or 38 GHz bands. These alternative bands provide ample spectrum for Northpoint’s proposed service, and have the benefit of removing Northpoint’s significant interference from the already-complex GSO/NGSO interference environment. Thus, the Commission should reject Northpoint’s proposed use of 12.2 - 12.7 GHz.

IV. CONCLUSION

Thus, HCI emphasizes that the complexity of the issues involved in introducing NGSO FSS systems at Ku band, along with the incumbent existing FSS and BSS uses that are at stake, merit promoting a precise and thorough process of analysis over a hasty rush toward provisional rules. Therefore, while HCI would welcome the opportunity, as SkyBridge

¹⁰ Comments of Northpoint Technology, Ltd. at 26.

¹¹ *Id.*

¹² Comments of DIRECTV, Inc. at 28.

suggests,¹³ to implement its Ku Band NGSO systems with a Commission license by the end of the year, such a timetable is in all likelihood unwise and infeasible because of the amount of work that still remains on the GSO/NGSO and NGSO/NGSO sharing issues.

Respectfully submitted,

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¹³ Comments of SkyBridge L.L.C. at viii, 118.